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A NEW SPECIES OF *IRENANGELUS* FROM COSTA RICA (HYMENOPTERA: POMPILIDAE: CEROPALINAE)

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Abstract.—***Irenangelus eberhardi*** n. sp. is described from Costa Rica. This is the tenth known Neotropical species of these cleptoparasitic Pompilidae and the first to have been reared from a host (*Auplopus semialatus* Dreisbach).

The pompilid genus *Irenangelus* has been known from nine Neotropical species and several from the Oriental and Australian regions (Evans, 1969). Although the genus has several unique features, common structural characters with *Ceropales* suggest that, like members of that genus, these wasps are cleptoparasites of other Pompilidae. Williams (1919) discovered this with respect to a Philippine species, *I. luzonensis* (Rohwer). He found a small larva attached to an egg of *Tachypompilus analis* (Fabricius) which had been laid ventrally near the base of the metasoma of the spider prey; he later reared several *Irenangelus* from *Tachypompilus* cocoons. He also reared an *Irenangelus* from a cocoon of *Auplopus nyemitawa* (Rohwer). Nothing further has been added in the more than half a century since Williams' report. Thus I welcome the opportunity to describe a new species from Costa Rica which has supplied further information on the biology of these rare and unusual wasps (Wcislo et al., in press).

***Irenangelus eberhardi* Evans,**
New Species
Fig. 1

Holotype female.—Length 7.5 mm; forewing 6.8 mm. Ground color yellow, marked with black as follows: greater part of mandibles; extreme sides of clypeus; front with a pair of streaks from just above antennal sockets, nearly connecting with a band between tops of eyes, also with a spot in front of median ocellus and a streak behind ocelli connecting to black on occiput; pronotum with a transverse band anteriorly; mesoscutum with three broad longitudinal bands; scutellum black anteriorly and posteriorly, otherwise yellow; postnotum black as well as two longitudinal stripes on propodeum; extreme base of first tergite black as well as broad apical bands on tergites 1–5; small streaks on mesopleura and along suture between meso- and metapleura; mid and hind coxae streaked with black as well as inner surface of mid and hind femora and tibiae and outer surface of hind femora; tarsi yellowish brown. Scape yellow, flagellum black except apical 4.5 segments light reddish brown. Wings faintly tinged with yellow; extreme tip of forewing faintly clouded; stigma yellowish brown.

Labrum emarginate, 2.0 times as wide as its median height; clypeus 1.56 times as wide as its median height. Scape cylindrical; flagellum filiform, flagellomere 1 1.7 times as long as thick. Genae deeply grooved behind each eye, posterior margin of groove rounded below, sharp above. Tubercle above antennal sockets well developed, bisected by a groove that extends to median ocellus; laterad of the groove the front is deeply pit-

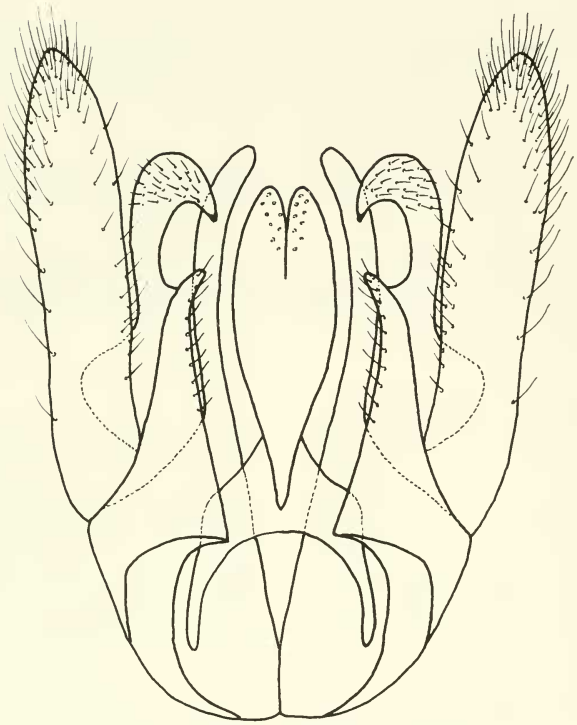

Fig. 1. *Irenangelus eberhardi* Evans, new species. Male genitalia, ventral aspect.

ted all the way to eye margins and ocelli; vertex broadly depressed laterad of lateral ocelli. Mesoscutum with notauli distinct, linear, scutum without a median ridge; postnotum 0.7 times as long as metanotum, depressed and slightly broadened medially but not notably extended backward into propodeum, latter with a shallow median impression. All claws dentate. Third submarginal cell broader than second both above and below, receiving second recurrent vein very slightly beyond middle.

Allotype male.—Length 7.3 mm; forewing 6.8 mm. Color as in female except apical five segments of antennae light yellowish brown. Structure of head and thorax also as described for female; abdomen less tapered and compressed apically; last tergite shallowly emarginate; subgenital plate quadrate, wholly covered with short setae; genitalia as figured (Fig. 1).

Variation.—The females vary in length from 7.5 to 9.5 mm, forewing length from 6.8 to 8.3 mm. In the larger females the black stripes on the front reach the transverse band across the vertex and the black streak on the outer side of the hind femora is absent. A paratype male is slightly larger than the allotype, measuring 8.4 mm, forewing 8.0 mm. There are no structural differences worthy of note.

Type material.—Holotype ♀ and allotype ♂, Costa Rica: Heredia, near Puerto Viejo, La Selva, 50 m. Reared from nest of *Au-*

plopus semialatus Dreisbach, May 1986, W. Eberhard (Museum of Comparative Zoology, Cambridge, Massachusetts). Paratypes: 1 ♀ and 1 ♂, same data as type; 2 ♀, same data except dated April 1986 (Museum of Comparative Zoology and U.S. National Museum).

Remarks.—This species resembles *I. ichneumonoides* Ducke closely both in color and structure; these are the only known American species having deep punctures on the front. Structural differences from *ichneumonoides* are as follows; smaller (7.3–9.5 mm as compared to 9–14 mm in *ichneumonoides*); labrum about twice as wide as high (barely wider than high in *ichneumonoides*); scape without a sharp edge beneath; punctures of front coarser and fewer in number; mesoscutum without a median ridge; male genitalia with parameres much exceeding digiti and parapenial lobes, recurved tips of digiti less prolonged. Major color differences from *ichneumonoides* are as follows: antennal flagellum black except apically; front with a pair of black streaks but without a median streak; abdomen yellow, prominently banded with black; inner surfaces of mid and hind tibiae streaked with black. Undoubtedly both species are mimics of species of *Stelopolybia* (Vespidae), but judging from the differences in size and abdominal coloration it seems probable that they mimic different species of that genus.

Etymology.—It gives me pleasure to name this species for William G. Eberhard, of the Universidad de Costa Rica, who collected the type series, in recognition of his many contributions to the biology of Neotropical insects and spiders.

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